

CLAIMS

What is claimed is:

1 1. A process for producing alkaline earth metal salicylates comprising the steps of:

2 A) alkylating salicylic acid with a linear α -olefin comprising at least 14 carbon
3 atoms in the presence of a strong acid catalyst to form an oil soluble alkylated salicylic acid;

4 B) neutralizing the oil soluble alkylated salicylic acid;

5 C) overbasing the oil soluble alkylated salicylic acid by carbonation of lime using
6 CO₂ in the presence of a promoter and a surfactant;

7 D) filtering the product of C); and

8 E) removing solvents by distillation.

1 2. The process of claim 1 wherein the strong acid catalyst is anhydrous methanesulfonic
2 acid.

1 3. The process of claim 1 wherein the alkylation step is carried out at a temperature in the
2 range of from about 50 to about 200° C.

1 4. The process of claim 1 wherein the linear α -olefin is selected from the group consisting
2 of 1-tetradecene, 1-hexadecene, 1-octadecene, 1-eicosene, 1-docosene, 1-tetracosene, and
3 mixtures of the foregoing.

1 5. The process of claim 1 wherein the overbasing step is carried out in the presence of a
2 promoter.

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1 6. A process for producing alkaline earth metal salicylates comprising the steps of:

2 A) alkylating salicylic acid with a linear α -olefin comprising at least 14 carbon
3 atoms in the presence of a strong acid catalyst to form an oil soluble alkylated salicylic acid;

4 B) reacting the oil soluble alkylated salicylic acid with a previously overbased
5 detergent selected from the group consisting of overbased alkali or alkaline earth sulfonates,
6 phenates, or carboxylates to produce alkali or alkaline earth salicylate salts comprising varying
7 percentages of dispersed alkali or alkaline earth carbonate salts.

1 7. The process of claim 6 wherein the strong acid catalyst is anhydrous methanesulfonic
2 acid.

1 8. The process of claim 6 wherein the alkylation step is carried out at a temperature in the
2 range of from about 50 to about 200° C.

1 9. The process of claim 6 wherein the linear α -olefin is selected from the group consisting
2 of 1-tetradecene, 1-hexadecene, 1-octadecene, 1-eicosene, 1-docosene, 1-tetracosene, and
3 mixtures of the foregoing.

1 10. The process of claim 6 wherein the overbasing step is carried out in the presence of a
2 promoter.

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1 11. An alkaline earth metal salicylate produced by a process comprising the steps of:

- 2 A) alkylating salicylic acid with a linear α -olefin comprising at least 14 carbon
3 atoms in the presence of a strong acid catalyst to form an oil soluble alkylated salicylic acid;
4 B) neutralizing the oil soluble alkylated salicylic acid;
5 C) overbasing the oil soluble alkylated salicylic acid by carbonation of lime using
6 CO₂ in the presence of a promoter and a surfactant;
7 D) filtering the product of C); and
8 E) removing solvents by distillation.

1 12. An alkaline earth metal salicylate produced by a process comprising the steps of:

- 2 A) alkylating salicylic acid with a linear α -olefin comprising at least 14 carbon
3 atoms in the presence of a strong acid catalyst to form an oil soluble alkylated salicylic acid;
4 B) reacting the oil soluble alkylated salicylic acid with a previously overbased
5 detergent selected from the group consisting of overbased alkali or alkaline earth sulfonates,
6 phenates, or carboxylates, e.g., calcium sulfonate, to produce alkali or alkaline earth salicylate
7 salts comprising varying percentages of dispersed alkali or alkaline earth carbonate salts.